

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 02/05446

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G11B7/0065 G03H1/26 G11B7/24

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G11B G03H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 065 658 A (HORIMAI HIDEYOSHI ;OPTWARE CORP (JP)) 3 January 2001 (2001-01-03)	1-5, 8, 12, 13, 16-20, 32-36, 39, 43, 44, 46-48, 50, 51
Y	abstract paragraph '0159! - paragraph '0166!; figures 44-46, 49 paragraph '0008! paragraph '0115!	6, 14, 37, 45
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *A* document member of the same patent family

Date of the actual completion of the international search

22 May 2003

Date of mailing of the international search report

03.06.2003

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PCT/EP 02/05446

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 00 30084 A (CAMBRIDGE SCIENT INC) 25 May 2000 (2000-05-25)	6,14,29, 30,37, 45,60,61
A	abstract	
X	US 5 007 690 A (CHERN MAO-JIN ET AL) 16 April 1991 (1991-04-16)	1-3,8, 15, 32-34,39
	column 1, line 6 -column 2, line 68	
Y	HSIN-YU SIDNEY ET AL: "THREE-DIMENSIONAL HOLOGRAPHIC DISKS" APPLIED OPTICS, OPTICAL SOCIETY OF AMERICA, WASHINGTON, US, vol. 33, no. 17, 10 June 1994 (1994-06-10), pages 3764-3774, XP000454720 ISSN: 0003-6935 page 1 -page 3; figures 1-3	7,21-31, 52-61
Y	HOMAN S ET AL: "High-capacity optical storage using multiple wavelengths, multiple layers and volume holograms" ELECTRONICS LETTERS, IEE STEVENAGE, GB, vol. 31, no. 8, 13 April 1995 (1995-04-13), pages 621-623, XP006002721 ISSN: 0013-5194 the whole document	7,21-31, 52-61
A	HO H P: "Application of dual probe direct interference to multilayered high density optical storage: A proposal" ELECTRONICS LETTERS, IEE STEVENAGE, GB, vol. 33, no. 7, 27 March 1997 (1997-03-27), pages 621-622, XP006007264 ISSN: 0013-5194 the whole document	7,21-28, 52-59

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 02/05446

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-6 8-20 32-51

Double-sided holographic data storage medium having an opaque layer between the two sides.

2. Claims: 7, 21-31, 52-61

Single-sided double-layer holographic storage medium having a transmissive diffractive holographic storage layer and a reflective holographic storage layer.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/EP 02/05446

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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			WO 0030084 A1	25-05-2000
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